

In the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-20. (cancelled)

21. (new): A water purification system for purifying wastewater, comprising:
an ion exchange unit for removing ions from the wastewater;
a base dosing system in fluid communication for raising a PH of the wastewater
to a first PH value without lowering;
a high-efficiency reverse osmosis system for further removing ions from the
wastewater and further directly raising the first PH value of the wastewater to a second
PH value.

22. (new): The water purification system of claim 21 wherein the base dosing
system comprising a base dispensing tank for containing a base solution and a
dispensing device extending from the base dispensing tank for dispensing the base
solution into the wastewater.

23. (new): The water purification system of claim 22 wherein the base solution
comprising a sodium hydroxide solution of high concentration.

24. (new): The water purification system of claim 21 wherein the ion exchange unit comprises a tank and an ion exchange resin bed provided in the tank.

25. (new): The water purification system of claim 24 further comprising a plurality of inlet nozzles provided above the ion exchange resin bed for distributing the wastewater onto the ion exchange resin bed and a plurality of outlet nozzles provided beneath the ion exchange resin bed for distributing the wastewater from the tank.

26. (new): The water purification system of claim 21 wherein the high-efficiency reverse osmosis system comprising one first stage of multiple membranes and one second stage of a membrane in fluid communication.

27. (new): A method for purifying wastewater comprising:
providing an ion exchange unit for removing ions from the wastewater;
providing a base dosing system in fluid communication for raising a PH of the wastewater to a first PH value without lowering;
providing a high-efficiency reverse osmosis system comprising one first stage of multiple membranes and one second stage of a membrane in fluid communication for further removing ions from the wastewater and further raising the first PH value to a second PH value.

28. (new): The method of claim 27 wherein a base solution from the base dosing system is dispensed into the wastewater as the wastewater flows from the exchange unit, and raising the PH of the wastewater to the first value prior to entry of the wastewater into a high efficiency reverse osmosis system without decreasing the PH of the wastewater.

29. (new): The method of claim 27 wherein main flow of the wastewater flows downstream in sequence of the ion exchange unit and the high-efficiency reverse osmosis system.

30. (new): The method of claim 27 wherein the first PH value is from a PH of about 3 to 4 to a PH of about 6 to 7.

31. (new): The method of claim 27 wherein the second PH value is from a PH about 6 to 7 to a PH of about 8.5 to 10.